

**Recommendations of
Arizona's Governor's Forest Health Council
Following the 2011 Fire Season**

INTRODUCTION

The 2011 wildfire season was a stark reminder that the poor health of Arizona forests puts those ecosystems and surrounding communities in serious jeopardy. The wildfires of 2011 burned nearly one million forested acres, harming wildlife habitat, impairing watersheds, damaging other natural resources, destroying numerous structures, and threatening the lives of firefighters and Arizona residents. The Governor's Forest Health Council ("FHC") is deeply concerned about lasting effects of the 2011 wildfires and the potential for future conflagrations, particularly given intensified predictions for more severe fires driven by changing climate conditions. To address these concerns, the FHC has revisited previous policy recommendations published in 2007 in the *Statewide Strategy for Restoring Arizona's Forests ("Statewide Strategy")* and articulated new ones that address current circumstances and significant progress to date.

The 2007 recommendations were designed to initiate a multiyear, integrated set of actions to maximize efficiency and efficacy of on-the-ground forest treatments. These recommendations largely focused on facilitating the development of landscape-scale projects, commensurate with the scale of unnaturally severe fires. In light of the scale of Arizona's 2011 wildfires, the FHC continues to support the development and expansion of landscape-scale restoration efforts. At these scales, restoration treatments also provide predictable and sustainable supplies of forest products, including small-diameter timber and woody biomass, which are necessary to build and maintain the infrastructure and industry needed to implement cost-effective forest treatments.



Finally, landscape-scale restoration facilitates cross-jurisdictional planning and implementation with local, state, and federal cooperators who are essential partners in land management.

The State of Arizona and the U.S. Forest Service ("USFS") recognize the importance of landscape-scale planning. Arizona is moving forward with several key, nationally recognized forest restoration initiatives: the Four Forest Restoration Initiative ("4FRI"), the White Mountain Stewardship Contract ("WMSC"), and FireScape. Together, these initiatives have the potential to significantly improve the health of millions of acres of Arizona's forests and protect Arizona's residents from catastrophic wildfires.

In light of the 2011 fire season and in recognition of ongoing restoration efforts, the FHC has reviewed its 2007 recommendations and identified the urgent actions needed to prevent another Wallow-type mega-fire in Arizona. These recommendations focus primarily on improving forest health through facilitation and development of active restoration activities and increasing community education and awareness.

2011 RECOMMENDATIONS

The FHC recommends that local, state, and federal governments take the following actions to enhance: (1) community protection, (2) collaborative planning through the National Environmental Policy Act (“NEPA”) process, (3) cross-jurisdictional planning and implementation, (4) monitoring and adaptive management, (5) economic viability of restoration treatments, and (6) public outreach and education.

1. Community Protection

The 2007 *Statewide Strategy* recommended that “The Arizona State Legislature, county and local governments and state agencies should develop land-use policies and practices that support forest restoration, community protection, and fire management efforts,” including the development, implementation, and enforcement of Wildland Urban Interface (“WUI”) fire codes. This recommendation is based on the assumption that restoration and fuel-reduction treatments are not “complete” without complementary activities on adjacent private lands and consideration of fire-informed land-use planning decisions. As explained in the FHC’s 2008 report, *Fire on the Landscape: Planning for Communities, Fire, and Forest Health* (“*Fire on the Landscape*”), land-use patterns can significantly affect the restoration and maintenance of Arizona forests. Indeed, this assumption was validated during the Wallow fire. Post-fire investigations indicate that many structures were lost because homeowners adjacent to public lands did not implement forest treatments or adhere to Firewise guidance on their private property.



➤ ***Counties and local governments should use national and international “model” Fire Codes, Firewise techniques, and Community Wildfire Protection Plans (“CWPPs”) to develop, adopt, and enforce WUI fire codes that meet community needs to reduce wildfire risks.***

The FHC believes that WUI fire codes are critical to reduce fire risk to Arizona communities. The FHC recognizes that adoption and enforcement of building and WUI fire codes by counties and local governments must begin by educating these entities about WUI fire code benefits. The benefits of adoption and enforcement of WUI fire codes by local entities has already been demonstrated by Pima County, the cities of Flagstaff, Queen Creek, and Prescott, and the Sedona and Groom Creek Fire Districts. State legislative action may be necessary to fund use and enforcement of such codes and to resolve conflicts that may exist with other land-use policies and statutes. An article on Flagstaff’s success in the fire code adoption process can be found at: <http://www.flagstaff.az.gov/DocumentView.aspx?DID=12911>.

➤ ***The FHC should work with Arizona’s local fire department and district leaders, elected and appointed officials, Home Owners’ Associations (“HOAs”), Arizona’s insurance industry, and other key stakeholders to promote and encourage communities – through public outreach and educational forums – to adopt WUI fire codes, Firewise techniques, CWPPs, and other policies and techniques to reduce property losses.***

The application and enforcement of WUI fire codes, Firewise techniques, CWPPs, and other loss mitigation strategies are crucial to community protection. Local elected and fire officials, community HOAs, and the Arizona Insurance Council – with its representation on the FHC – are obvious resources to partner with the FHC to

conduct educational outreach to promote adoption of these techniques. Each of these constituencies understands these techniques not only reduce structure losses and save lives, but also reduce fire suppression costs and other economic losses. The FHC hopes to continue educational programs that encourage the use of WUI fire codes and other community protection techniques by local governments.

➤ *The FHC and land-use planners should examine potential wildfire and post-fire flooding risks when siting new infrastructure and residential development within the WUI.*

In *Fire on the Landscape*, the FHC explored the consequences of land-use patterns for maintaining and restoring the health of Arizona's forests. The 2011 Monument fire and 2010 Schultz fire also demonstrated the serious consequences of wildfire and post-fire flooding on neighborhoods built in harm's way. By addressing fire-related hazards through site planning and thoughtful development decisions, Arizona can reduce the number of future communities that may be placed at risk due to the effects of wildfire. For instance, development of future communities might be avoided within particularly fire prone areas or below topographic features that are likely to exacerbate post-fire flooding. Additionally, future development could be strategically positioned near features that serve as fire breaks or facilitate fire suppression activities, such as roads, utility corridors, and water. By mitigating fire hazards through proactive, thoughtful planning, fire suppression costs can be significantly reduced and lives and structures protected.

2. Collaborative Planning and NEPA

The 2007 *Statewide Strategy* recommended that "Congress should increase funding to federal land management agencies and the state to furnish the capacity essential for collaboratively planning, implementing, and monitoring restoration treatments." The FHC cannot overemphasize the importance of this recommendation. Collaboratively planned and well-monitored landscape-scale restoration programs, such as 4FRI, the WMSC, and FireScape, demonstrate that collaboration is an effective way to develop socially supported solutions that incorporate the best available science, reduce risk of unnaturally severe wildfires, support rural economies, and improve wildlife habitat, watershed quality, and recreational opportunities. Through these programs, stakeholders throughout Arizona are making quantum leaps towards solving the State's forest health issues. It is critical that 4FRI, WMSC, and Firescape continue to receive the political support and resources needed to maintain and expand their work.



➤ *The Chief of the USFS and the Directors of the Bureau of Land Management ("BLM"), National Park Service ("NPS"), US Fish and Wildlife Service ("USFWS") and Bureau of Indian Affairs ("BIA") should develop agency-specific guidance regarding enhanced collaboration in land management planning, including descriptions of collaboration opportunities before, during, and after formal NEPA processes and the effects of the Federal Advisory Committee Act ("FACA") on collaboration.*

Landscape-scale forest restoration must be supported by meaningful, ongoing collaboration that accelerates the restoration process in a socially, ecologically, and economically viable manner. Collaboration is simply people working together to address a shared problem that no one of them could effectively solve alone. Each participant brings to the effort knowledge, skills, ideas, and resources that can help reduce the risk of unnaturally

severe wildfires, protect communities, and increase forest health. The more inclusive the group and the greater the diversity of interests involved, the more likely it is to be representative of the community as a whole and to find broadly acceptable, mutually agreeable solutions. Everyone comes to the table and agrees to meet in the middle and actively enforce the outcome.

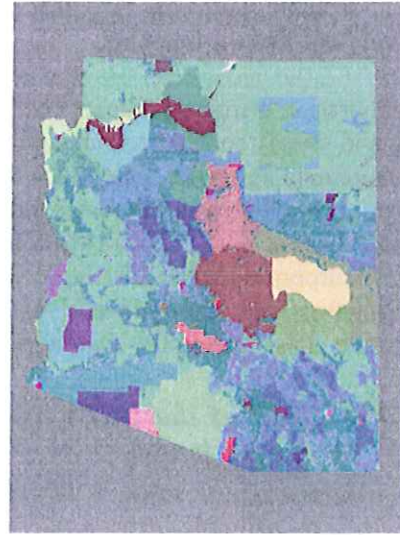
Collaboration brings significant challenges: it is resource and time intensive, often requires resolution of long-standing and deeply rooted conflict, and can challenge the organizational culture and legal frameworks governing land management agencies. One of the foremost challenges facing landscape-scale forest restoration in Arizona is structuring true collaboration (versus single-direction public input) within the NEPA process. Participating land management agencies are frequently fearful of violating FACA and also lack clarity and consistency on how to properly incorporate stakeholder input while navigating the NEPA process. Federal land management agencies should develop specific guidance with respect to collaboration that clearly articulates opportunities for collaborative planning and the legal limitations to such efforts.

➤ The Chief of the USFS and the Director of BLM should strive to perform NEPA analyses at larger, landscape-level scales, thereby gaining operational efficiencies within NEPA, increasing the pace at which restoration activities can occur, and allowing for more robust analysis of cumulative environmental impacts.

The FHC recognizes the vital importance of and strongly supports the NEPA process when planning and analyzing environmental impacts of forest restoration activities on federal lands. However, the FHC recognizes that NEPA, when implemented at traditionally small scales (i.e., hundreds to thousands of acres), may slow the pace of federal agency actions. NEPA-related delays and the urgent need for on-the-ground forest restoration in Arizona often lead to calls for “streamlining” or even suspending NEPA. Instead, the FHC recommends that federal land management agencies perform NEPA analyses more efficiently by avoiding redundancy associated with multiple, small-scale NEPA documents. Land management agencies should attempt to increase efficiency by analyzing environmental impacts at the landscape scale, which more accurately represents the need for active restoration across Arizona forests and provides the reliable and consistent wood supply needed for economically feasible restoration treatments.

3. Cross-Jurisdictional Planning and Implementation

Cross-jurisdictional collaboration between federal and state land management agencies is crucial to accomplishing restoration at landscape scales. Just as wildfire and wildlife do not recognize jurisdictional boundaries, neither should restoration efforts. By pursuing an “all-lands” management approach across federal, state, and private property boundaries, efficiencies can be realized through the joint utilization of agency personnel and the coordination of project work into a single contract, making implementation more consistent. The state may also benefit directly from receipt of additional staffing and treatment funds from federal land management agencies, and more cost-effective treatment of State lands. To further such cross-jurisdictional collaboration, and in compliance with the Cooperative Forestry Assistance Act of 2008, Arizona developed its 2010 Arizona Forest Resource Assessment and Strategy, which serves as its legislatively required Forest Action Plan. This document outlines long-term coordinated approaches for addressing forest resource issues and opportunities in priority landscapes across the State.



➤ *Arizona’s congressional delegation should support the passage of The Good Neighbor Forestry Act, S.375, or other federal legislation allowing the states to collaborate with and act as agents for federal land management agencies.*

In 2000, in order to support state-federal cooperation, Congress authorized the USFS to undertake a pilot program called the Good Neighbor Authority (“GNA”) with the Colorado State Forest Service (“CSFS”). The legislation permitted CSFS to conduct activities, such as reducing hazardous fuels, bark beetle prevention, wood product sales, and watershed restoration, on USFS lands when conducting similar activities on adjacent state or private land. The GNA legislation was later expanded to include USFS lands in Utah, and BLM lands in Colorado. Although the GNA expired on September 30, 2011, several senators have introduced legislation (The Good Neighbor Forestry Act, S.375) to expand the GNA to all western states, including Arizona, through September 30, 2019. The bill would authorize the states to act as agents for the Secretary of Agriculture and allow states to subcontract for various land management services. The FHC believes that this bill could greatly increase cross-jurisdictional collaboration and increase land management efficiencies across Arizona, and therefore supports its passage.

➤ *Arizona’s state land management agencies should seek out and leverage funds from federal agency programs for conducting restoration activities on State and private lands.*

Numerous federal agencies offer programs that provide technical and financial support for forest restoration activities on state and private lands. For instance, the State and Private Forestry Program at the USFS is designed to reach across the boundaries of the National Forests to states, tribes, communities, and non-industrial private landowners to offer assistance with developing sustainable forests and protecting communities and the environment from wildfires. The State of Arizona already receives significant support from the USFS State and Private Forestry program. This program, however, as well as similar opportunities with other federal agencies, should continue to be leveraged to accomplish much-needed, cross-jurisdictional restoration. Specifically, the FHC recommends that the Arizona State Forestry Division continue leveraging State and Private Forestry Program funds and explore funding opportunities available through the USDA Natural Resource Conservation Service and USFWS.

4. Monitoring and Adaptive Management

➤ *The Chief of the USFS and the Directors of BLM, NPS, USFWS, and BIA should develop explicit guidelines for and dedicate necessary resources to develop and implement adaptive management programs that will enable efficient, effective, and continually improving landscape-scale restoration.*

When planning and conducting forest restoration at landscape scales, land managers are challenged with scientific uncertainty. Southwest ponderosa pine forests are one of the most researched ecosystems in the United States. Since the establishment of the first Forest Service Experimental Forest at Fort Valley in Flagstaff, scientists have pursued scientific investigations designed to understand forest dynamics. However, ecological systems are more complex than we can imagine and managing these systems at the landscape scale requires humility and the need to adjust actions in the face of new, unpredicted outcomes.

To ensure that Arizona's restoration efforts are informed by the best-available science and avoid unintended consequences, these projects must incorporate robust adaptive management. Adaptive management uses monitoring of specified indicator variables to determine if established triggers or thresholds are met, which indicate how management actions should be altered. There are numerous challenges affecting design and implementation of effective adaptive management. These programs require significant and sustained resources to support monitoring and data analysis and interpretation. Thus, adaptive management programs must maximize efficiencies through identification of carefully selected indicators and development of cost-effective monitoring strategies. Furthermore, federal land management agencies commonly lack effective mechanisms for incorporating monitoring results into NEPA planning documents. By addressing these challenges in agency-specific guidance, federal land management agencies can create a clear and consistent process for incorporating adaptive management into landscape-scale restoration projects.

5. Economic Viability

In 2007, the FHC recommended that "Federal, state, and local governments should identify and enhance opportunities for utilizing small-diameter wood and biomass generated from forest treatments." Today, the absence of private sector businesses that can utilize restoration byproducts and generate revenue to help offset treatment costs remains the largest constraint to achieving landscape-scale forest restoration in Arizona. Although the 4FRI anticipates awarding the largest forest Stewardship Contract in the nation – 300,000 acres over 10 years – at the beginning of 2012, it remains



uncertain what type of industry will receive the contract and whether the contract will result in zero-cost treatments to the federal government. Regardless, the recipient of the 4FRI stewardship contract will not be able to perform all necessary restoration treatments across Arizona. And, now, more than ever, federal and state

government budgets are incapable of paying for forest restoration treatments. Thus, the FHC reiterates the need to enhance opportunities for utilizing wood products generated from forest restoration treatments.

➤ The Arizona state legislature should immediately extend expired and expiring authorizations within the Healthy Forest Enterprise Incentives Program (A.R.S. § 41-1516) until 2024 and should pass legislation in 2012 that is drafted by the FHC and Arizona Commerce Authority to amend and improve the Program.

In 2004, the Arizona state legislature established the Healthy Forest Enterprise Incentives Program ("HFEI") under A.R.S. § 41-1516. The primary goal of the HFEI is to promote forest health in Arizona. The program seeks to achieve this by providing incentives and tax credits to certified businesses that are primarily engaged in harvesting, initial processing for commercial use, or transporting qualified forest products. With an ever-increasing need to reduce the cost of implementing forest restoration treatments, the need to improve and encourage use of these incentive programs is vital to the success of ongoing landscape-scale restoration efforts.

A recent survey analyzing the effectiveness of the HFEI indicates that many of the HFEI incentives are desirable to Arizona's wood products industries but are underutilized for a variety of reasons. The survey asked businesses to suggest changes that would improve the HFEI's programs. The FHC will now work with the Arizona Commerce Authority to develop legislation that incorporates changes, such as supporting industries that conduct on-the-ground restoration treatments, and extends authority to program elements that have or will expire by 2014. These programs should be reauthorized for at least another ten-year period, extending through 2024.

➤ The FHC should work with interested stakeholders, trade organizations, Arizona's community colleges, and other training organizations to facilitate development of an income tax credit-supported workforce training program that is capable of meeting the employment demands of existing and developing forest restoration initiatives.

Currently, Arizona lacks a skilled workforce large enough to accomplish landscape-scale forest restoration at a meaningful pace. Researchers at Northern Arizona University are conducting a workforce-gap analysis to estimate how many and what types of jobs will be needed to accomplish Arizona's forest restoration needs and to determine what services and support exists to train and fill these gaps. With tens of thousands of acres to be treated annually across the State, the FHC anticipates that several hundred additional skilled workers will be necessary. For example, the 4FRI alone is expected to mechanically treat 50,000 acres of Arizona's National Forests per year over the next 20 years. Presently, however, the four National Forests within the 4FRI geographic area only treat approximately 20,000 acres per year. Based on the evaluation scenario provided in the Request for Proposals for the first 4FRI stewardship contract and on industry best management practices, the FHC estimates that the first 4FRI contract will require approximately 200 workers for wood harvesting and transport activities alone.

Once the extent and makeup of the required workforce is known, the FHC plans to work with interested stakeholders, trade organizations, community colleges, and other training organizations to facilitate the design and implementation of a workforce training program that can create the skilled workforce needed to conduct forest restoration at the landscape scale. The workforce training program is likely to be an on-the-ground training model that increases efficiencies in implementation while enabling operators and contractors to comply with the ecological prescriptions. To develop the capacity needed to implement this training program, the FHC recommends that the State utilize an income tax credit, similar to the New Job Income Tax Credit, which can incentivize contractors and employers to attend training.

➤ *The Governor should work with the Arizona's congressional delegation and the Western Governors' Association to ensure reauthorization of the USFS's and BLM's Stewardship Contracting authority.*

The USFS and BLM use a variety of contracting instruments to implement forest restoration treatments. Stewardship Contracts appear to be the most effective means of supporting landscape-scale restoration in Arizona forests. Stewardship Contracts offer flexibility and efficiency and are designed to support restoration and forest health as the primary management goal. Where timber has value, timber sales can be embedded within the stewardship contract, goods for services can be procured, and the agency can guarantee a ten-year wood supply. From an agency efficiency standpoint, Stewardship Contracts can be configured to function with task orders, thereby reducing administrative costs. Finally, they allow the USFS and BLM to retain receipts for additional restoration work on the forest. Therefore, the FHC recommends that the Governor work with the Arizona congressional delegation and Western Governors' Association to support reauthorization of the Stewardship Contract authority.

6. Public Outreach

➤ *Arizona state agencies, in cooperation with Federal land management agencies should develop a statewide public outreach strategy, in advance of the 2012 fire season and implementation 4FRI and other landscape-scale efforts, that is designed to inform the public about the role of fire in Southwestern ecosystems, the importance of forest restoration treatments, such as fire and mechanical thinning, and the value and benefits available from our public lands.*

In the *Statewide Strategy*, the FHC recommended that "The Arizona State Legislature should fund public education, and work with the State Forester and local governments to educate the public about restoration, sustainable forest and wood products businesses, fire management, and community protection needs and responsibilities." The FHC continues to recognize the need for public education. Implementation of forest restoration treatments will yield considerable benefits for citizens of Arizona, but will also bring conditions that many residents and visitors have not previously experienced. Most notably, treatment implementation will result in widespread harvesting activities, increased traffic on transportation corridors to processing and shipping facilities, and the regular presence of smoke from managed and prescribed burns. To those who understand the need for and process of forest restoration, these are small inconveniences far outweighed by the benefits of healthy, fire-safe forests. To some, these changes will be perceived as adverse and undesirable. Therefore, in order to maintain support for restoration activities, residents and visitors must have an opportunity to gain a better understanding of the role of fire in Southwestern ecosystems and the benefits of restoration treatments. The FHC recommends that the FHC and Arizona state agencies, including the Arizona State Forestry Division, Arizona Game and Fish Department, and the Arizona Department of Environmental Quality, develop and execute a statewide communications strategy regarding fire and forest restoration.

CONCLUSION

Much has changed since the FHC completed its *Statewide Strategy* in 2007. Due to current work on three landscape-scale restoration efforts, over one million acres of Arizona forests are under analysis by the USFS for implementation of restoration treatments. These landscape-level projects are proceeding in part, because many recommendations the *Statewide Strategy* were translated into policy. On the other hand, over one million acres of Arizona's forests have suffered catastrophic wildfires. These fires serve as a reminder that although giant steps are being taken, urgent work remains.

We encourage national, state, and local officials to review these recommendations and take action to transfer these recommendations into policy. Below are the FHC's most urgent recommendations for the various governmental entities responsible for protecting the health of Arizona's forests.

**Recommendations of Arizona's Governor's Forest Health Council
Following the 2011 Fire Season**

GOVERNOR AND STATE EXECUTIVE BRANCH AGENCIES

- *Arizona's state land management agencies should seek out and leverage funds from federal agency programs for conducting restoration activities on State and private lands.*
- *The Governor should work with the Arizona's congressional delegation and the Western Governors' Association to ensure reauthorization of the USFS's and BLM's Stewardship Contracting authority.*
- *Arizona state agencies, in cooperation with Federal land management agencies should develop a statewide public outreach strategy, in advance of the 2012 fire season and implementation 4FRI and other landscape-scale efforts, that is designed to inform the public about the role of fire in Southwestern ecosystems, the importance of forest restoration treatments, such as fire and mechanical thinning, and the value and benefits available from our public lands.*

ARIZONA STATE LEGISLATURE

- *The Arizona state legislature should immediately extend expired and expiring authorizations within the Healthy Forest Enterprise Incentives Program (A.R.S. § 41-1516) until 2024 and should pass legislation in 2012 that is drafted by the FHC and Arizona Commerce Authority to amend and improve the Program.*

COUNTIES AND LOCAL GOVERNMENT

- *Counties and local governments should use national and international "model" Fire Codes, Firewise techniques, and CWPPs to develop, adopt, and enforce WUI fire codes that meet community needs to reduce wildfire risks.*

U.S. CONGRESS

- *Arizona's congressional delegation should support the passage of The Good Neighbor Forestry Act, S.375, or other federal legislation allowing the states to collaborate with and act as agents for federal land management agencies.*

FEDERAL LAND MANAGEMENT AGENCIES

- *The Chief of the USFS and the Directors of the BLM, NPS, USFWS, and BIA should develop agency-specific guidance regarding enhanced collaboration in land management planning, including descriptions of collaboration opportunities before, during, and after formal NEPA processes and the effects of FACA on collaboration.*
- *The Chief of the USFS and the Director of BLM should strive to perform NEPA analyses at larger, landscape-level scales, thereby gaining operational efficiencies within NEPA, increasing the pace at which restoration activities can occur, and allowing for more robust analysis of cumulative environmental impacts.*
- *The Chief of the USFS and the Directors of BLM, NPS, USFWS, and BIA should develop explicit guidelines for and dedicate necessary resources to develop and implement adaptive management programs that will enable efficient, effective, and continually improving landscape-scale restoration.*

GOVERNOR'S FOREST HEALTH COUNCIL

- *The FHC should work with Arizona's local fire department and district leaders, elected and appointed officials, HOAs, Arizona's insurance industry and other key stakeholders to promote and encourage communities – through public outreach and educational forums – to adopt WUI fire codes, Firewise techniques, CWPPs, and other policies and techniques to reduce property losses.*
- *The FHC and land-use planners should examine potential wildfire and post-fire flooding risks when siting new infrastructure and residential development within the WUI.*
- *The FHC should work with interested stakeholders, trade organizations, Arizona's community colleges, and other training organizations to facilitate development of an income tax credit-supported workforce training program that is capable of meeting the employment demands of existing and developing forest restoration initiatives.*

